

Irene Hoffmann

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Lebenslauf

Education

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| 1987 -1990 | Ph.D. Course in Hohenheim University, graduation as Dr. sc. agr. |
| 1979 - 1985 | studies of Agricultural sciences, University of Göttingen, graduation as Master of Science (Dipl. Ing. agr.) in Animal Science |
| 9/1979 | final examination at the end of the practical year by the Chamber of Agriculture |

Employment record

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| 6/2002 - | Service Chief, Animal Production Service of Animal Production and Health Division, Agricultural Department of Food and Agriculture Organization of the United Nations leading the Global Programme on the Preparation of the first Report on the State of the World's Animal Genetic Resources and the Global Strategy for the Management of Farm Animal Genetic Resources |
| 7/2001- 5/2002 | Co-ordinator of the subproject: "Socio-economic aspects of changes in biodiversity in Southern Africa" of the project Biodiversity Monitoring Transect analysis in Africa (BIOTA). |
| 4/1994-7/2001 | Assistant professor at the Institute of Animal Breeding and Genetics, Dept. of Livestock Ecology, Justus-Liebig-University Giessen JLU. |
| 11/1993 - 4/1994 | Editor at the German Institute for Technology in Agriculture (DEULA), Westerstede. |
| 5/1993 -10/1993 | Freelance work for NGOs (development, animal welfare) |
| 10/1992 - 4/1993 | Freelance work at the German Institute of Distance Education affiliated with the University of Tübingen (DIFF), scientific editor of the radio course "Anthropology". |

- 10/1990 - 9/1992 Member of the academic staff at DIFF, Tübingen; scientific editor of the radio course "Human Ecology".
- 5/1987 - 9/1990 Ph.D. training at Hohenheim University, sponsored by a scholarship of the "Studienstiftung des Deutschen Volkes".
- 5/1985 - 4/1987 Research associate of Hohenheim University at the GTZ-ONERA Rabbit Project, Bobo-Dioulasso, Burkina Faso.

List of publications

Monographs

- Hoffmann, I. (1985): Kaninchenhaltung in Burkina Faso. Diplomarbeit, Göttingen
- Hoffmann, I. (1990): Untersuchungen zur Kaninchenhaltung in Bobo-Dioulasso, Burkina Faso. Dissertation, Hohenheim

selected publications in international and national reviewed journals

- Hoffmann, I.: Access to land and water in the Zamfara Reserve. A case study for the management of common property resources in pastoral areas of West Africa. (in press, *Human Ecology*,)
- Hoffmann, I. (2003): Spatial distribution of cattle herds as a response to natural and social environments. A case study from the Zamfara Reserve, Northwest Nigeria. *Nomadic Peoples*, Vol. 6(2).
- Hoffmann, I., D. Gerling, U. B. Kyiogwom, A. Mané-Bielfeldt (2001): Farmers' management strategies to maintain soil fertility in a remote area in Northwest Nigeria. *Agriculture, Ecosystems and the Environment* Vol. 86 (3) 263-275.
- Hoffmann, I., C. Willeke-Wetstein, C. Schäfer (1998): Beschreibung eines Weideökosystems in Nordwest-Nigeria anhand von Umweltindikatoren. In: *Archiv für Tierzucht / Archives of Animal Breeding* 41 (1/2) 129-142
- Hoffmann, I., B. Eckert (1998): Local knowledge in transition: A case study on women and firewood utilisation in rural Nigeria. In: *The Land* 2.2, 101-114
- Hassan, W.A., I. Hoffmann, J. Steinbach (1998): Socio-economic importance of sheep and goat keeping in rural households. A case study of smallholder arable farming in Zamfara Grazing Reserve. *Nigerian Journal of Rural Sociology*, Vol 2, 1998, 33-41
- Schäfer, C., I. Hoffmann, J. Steinbach (1997): The role of traditional livestock husbandry in the supply of milk, meat and draught power in the Northwest of Nigeria. In: *Animal Research and Development* Vol. 46, 14-29

Impulsreferat AG 3: International tendencies in animal breeding and the role of breeding companies

General

Livestock currently contribute between 25 and 30% of agricultural GDP in developing countries and that is expected to rise to close to 50% over the next 20 years. Livestock provide services of income generation, asset accumulation, insurance, buffering against cyclical changes, food, clothing and other goods, traction and nutrient recycling, and do so using by-products of other agriculture activities (crop residues). 70% of the world's rural poor depend on livestock as an important component of their livelihoods. Livestock make a disproportionately higher contribution to income and welfare of the poorest small-holders, and particularly of women, and through them, children in such households.

Over 6,379 documented breed populations of some 30 species of livestock have been developed in the 12,000 years since the first livestock species were domesticated. These breeds have evolved adaptations that allow livestock production in a wide range of situations, including some of the most stressful environments inhabited by man. These naturally evolved genetic characteristics provide a coherent basket of sustainable solutions to disease resistance, survival and efficient production that have often been ignored in the drive to find technological and management solutions to individual problems of livestock production in low-input systems.

The performance, adaptation and disease resistance of the vast majority of breeds in developing countries have not been systematically recorded, and little of the information that does exist is in an easily accessible form. The majority of livestock genetic diversity is found in the developing world where documentation is most lacking and risk of extinction is highest and increasing.

The losses of livestock diversity, coupled with inappropriate management of livestock genetic resources have already had a number of negative impacts on livelihoods of poor farmers. The accelerating rates of loss of diversity coupled with the lack of information and consequent poor design of livestock genetic resource utilisation programs mean that many opportunities for livelihood improvement are being missed.

Social and economic policies affect survival and utilisation of livestock genetic resources. However, while the impacts of such policies are readily discernable in broad terms, little is known about their relative impact on livestock diversity. Even where policy clearly does affect livestock genetic resources directly, the net costs and benefits of such policies have not been documented, and policy environments that promote conservation and appropriate utilisation have not been defined. Appropriate conservation and utilisation of livestock genetic resources is critically dependant on having a suitable enabling policy environment.

Access to AnGR and breeding

The convention on biological diversity (CBD) provides a framework for defining sovereignty and benefit sharing related to genetic resources, but provides no explicit mechanisms for dealing with specific resources. Recognising this, there has recently been agreed an international treaty on agricultural plant genetic resources. No

equivalent international agreement exists for livestock. Thus, conservation and utilisation of livestock genetic resources continues to operate in a policy vacuum. Research is urgently needed to inform the international discussions that will need to take place in order to reach international agreements that will ensure appropriate conservation and utilisation of livestock germplasm for the benefit of the global community.

Individual farmers, private companies and research institutions own most AnGR. Industrial and intensive livestock production depends on few commercial breeders who consolidate control and ownership of their breeding stocks. With the exception of some industrial stocks owned by private entrepreneurs, exchange of AnGR (live animals and other genetic material) between countries is bound only by health certification and other export or import regulations. Apart from a few specific trade barriers that may be instituted by certain countries, there seems to exist an informal multilateral access to AnGR between countries.

Increasing hybrid breeding programmes and vertical integration of the industries, particularly poultry and pigs, provides breeding material only for the high-intensity end of production. Loss of lines occurs at company mergers.

Breeding for low-input production systems will continue to remain in the public sector, and can be supported by producer cooperatives or community-based breeding programmes.

The access of poor farmers to improved sources of livestock germplasm has been limited. While the opportunities to improve livestock genetic resources for poverty alleviation are great, the investments required are substantial. Lacking essential information on the genetic resources that are available, most livestock improvement programs hitherto have been unable to strategically target the most appropriate genetic resources, leading to inefficient use of scarce development funds.

Genetic improvement programs in developing countries have mostly failed due to inappropriate strategies. Most livestock genetic improvement efforts have been local in focus and limited in scope.

Commercial breeding companies could play a role in increasing small-farmers' access to genetic material in two different ways: a) by direct purchasing, by public agencies, of breeding stocks and incorporation of these into public breeding programmes. b) by developing tax-advantaged benefits for companies to donate surplus breeding stock (utilisation rates are usually lower than production due to cancellation of orders and the placement of back-up herds or flocks of breeders) to small farmers or to organisations that will take responsibility for distribution.

The involvement of commercial breeding companies in breeding for niche markets, or organic products from 'old' or 'local' breeds, may develop in future, depending on the stability and profitability of these markets.

Recommendations

In summary, there is urgent need to invest in livestock genetic resources in order to develop global capacity and provide a coordinated strategic approach to the problems

outlined above. The development of the **Global Strategy for the Management of Farm Animal Genetic Resources** is the internationally agreed approach to tackle the problem. Governments and the research community are invited to contribute to the process.

There is an urgent need to develop breeding strategies for low input systems (FAO is working on it) and to further develop community-based AnGR management.

For breeds prevalent in various countries in low population size, joint development and conservation programmes need to be established. FAO Projects include: Design and Legalization of a Livestock Identification and Recording System (Malawi); Animal recording (request, Zambia); Strategy for Active Conservation of Multiple Tsigai Sheep (Slovak Republic, Hungary, Serbia and Montenegro, and Romania); and A Strategy for the Active Conservation of the Dual Purpose Pinzgau Cattle Breed in Europe (Slovak Republic, Austria and Romania).